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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,231	11/15/2001	Xianguo Cao	29250-000565	3944

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EXAMINER

NGUYEN, HAI L

ART UNIT PAPER NUMBER

2816

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/991,231

Applicant(s)

CAO ET AL.

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment received on 07/24/03 has been reviewed and considered with the following results:

As to the rejection to claims 1-6, 11, and 12; under 35 U.S.C. 112, 2nd paragraph. Applicant's arguments have been carefully reviewed, but are not persuasive. The arguments supporting the previous rejections are addressed in detail below.

As to the prior art rejections to the claims. Applicant's amendments and arguments have been considered and found persuasive, as such; the prior art rejections have been withdrawn. However, applicant's amendments necessitate new ground of rejection as set forth below.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-12 are rejected, under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new added limitation that "a plurality of sampling modules concurrently receiving a second pulse signal as input" in claims 1 and 8 is not described in the application as originally filed. At the time of filing, the timing of the second pulse when receiving by the

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plurality of sampling modules recited in the above limitation was not defined as a critical feature of the present invention. Therefore, the addition of this limitation in the claims is seen as new matter. Applicant is required to cancel the new matter in the reply to this Office action.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 and 11-12 are rejected, under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the three-bit counter (51 in instant Fig.5), the decoder (52), sampling modules (53, 54), and synchronizers (56). In order for an encoder (57) to generates an output value based on a number of sampling modules (55s) that lock into the second pulse signal which is related with a first pulse as input of a tapped delay circuit and a clock signal for clocking the output signals from sampling modules (specification p.10, line 6 through p.11), those omitted elements need to be included in the claims.

6. Claim 7 is rejected, under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the three-bit counter (51 in instant Fig.5), the decoder (52), and sampling modules (53, 54). In order for an encoder (57) to generates an output value based on a number of sampling modules (55s) that lock into the second pulse signal which is related with a first pulse as input of a tapped delay circuit and a clock signal for clocking the output signals from sampling modules (specification p.10, line 6 through p.11), those omitted elements need to be included in the claims.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 8, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 6,326,826; previously cited).

With regard to claim 1, Lee et al. discloses in Figs.1-2 an apparatus comprising a tapped delay circuit (11) including a plurality of tapped delay cells (18's), the tapped delay circuit receiving a first pulse signal (REF\_CK) as input; a plurality of sampling modules (22's, 23) concurrently receiving a second pulse signal (output signal of 21) as input, each sampling module receiving a second pulse signal as input while the first pulse signal propagates through the tapped delay circuit, and each sampling module being clocked by a tapped output signal (CK[1]-CK[7]) from one of the plurality of tapped delay cells; and an encoder (13, 24, 25) for generating an output value based on a number of sampling modules that lock into the second pulse signal.

With regard to claim 2, the output value inherently represents the process, voltage, and temperature conditions of a microchip. Since it is notoriously well known in the art that the delay locked loop circuits automatically compensate for variations in delay caused by the process, changing temperature and voltage conditions, by varying the delay line for generating a

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synchronized local clock of a microchip with a reference clock. Therefore, the output value inherently represents the process, voltage, and temperature conditions of the microchip.

With regard to claims 8 and 11, Lee et al. discloses in Figs.1-2 a variable delay circuit comprising a variable delay component (8's, 9's) for delaying an input signal (REF\_CLK), the variable delay component having a delay time that is controlled according to a control signal (Delay Control); a delay compensation circuit and an encoder (note the above discussion with regard to claims 1 and 2).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of the admitted prior art, Fig. 2 in the present application.

With regard to claim 6, the above discussed the apparatus of Lee et al. meets all of the claimed limitations except for the plurality of tapped delay cells includes at least one DELC1V15 delay component. The admitted prior art in Fig. 2 shows a tapped delay circuit (10) including a plurality of tapped delay components DELC1V15 (SD1-SD8). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to utilize the delay components DELC1V15 taught by the admitted prior art in the delay circuit of Lee et al. for the

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advantage of obtaining a known delay time which is in each case optimally matched to its application.

Claim 10 is similarly rejected; note the above discussion with regard to claim 6.

### ***Response to Arguments***

11. Applicant's argument is that "second paragraph rejection is appropriate where a claim fails to interrelate essential elements of the invention as defined in the specification. Applicants submit that elements of the claims are properly interrelated as defined in the specification. Moreover, Applicants assert that the elements -- decoder, three-bit counter, and synchronizers -- are not disclosed as being necessary in the specification" is not persuasive, because according to the disclosure (page 10, line 6 through page 11) those elements are necessary for defining the operation of the delay compensation circuit so it will be enable to generate an output value represents the process, voltage, and temperature conditions of a microchip; and specifically those elements are necessary for defining the relationship between the input signal (CLK in instant Fig.5), the first pulse (CLK\_CNT0), and the second pulse (CNT0). Therefore, the rejections to those claims are proper and remain as set forth above.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 703-306-9178 and Right Fax number is 703-746-3951. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HLN   
October 5, 2003

  
TIMOTHY P. CALLAHAN  
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